



FORESTRY, FIRE & STATE LANDS REQUEST FOR PROPOSALS Cover Sheet



Project Title	Factors Controlling Mercury Methylation in Farmington Bay and the Great Salt Lake: Is Methylation Dominant in Sediment or Water?		
Lead Project Sponsor	University of Utah		
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Project Description / Abstract	<p>Consumption advisories for waterfowl in wetlands surrounding the Great Salt Lake and extraordinarily high methyl mercury concentrations in the deep brine layer of the lake demand better understanding of means to mitigate the methylation of mercury and its subsequent transport into biota. This requires determining the locations (e.g. sediment versus water column) and conditions (e.g., temperature, redox potential, and sulfate concentrations) that promote mercury methylation. Presently it is not known whether methylation in Farmington Bay occurs dominantly in the water column (e.g. fresher surface water or higher salinity wedge) or sediment pore water. We propose to determine methylation rates in these compartments to determine which compartment(s) constitute important producers of methyl mercury, and to what extent this production changes with season. The project capitalizes on novel analytical capabilities using stable isotopically-labeled mercury which allows methylation rates to be determined via spiking under environmental conditions. Field and other parameters will be monitored, to determine the influence of season, redox potential, sulfate concentration, etc. on observed methylation rates. Outputs will include a quantitative report and peer-reviewed publication(s) on methylation rates in these compartments, the factors controlling mercury methylation, and conceptual description of strategies to mitigate mercury methylation and transport to biota in the Great Salt Lake.</p>		
Project Funding	Amount Requested	Matching Funds	Total Project Cost
	\$ 37,400	\$ 8,000	\$ 45,400